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EXAMINER

RUTTEN, JAMES D

ART UNIT PAPER NUMBER

2192

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/609,275

Applicant(s)

GROVER ET AL.

Examiner

J. Derek Rutten

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D., 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-53 is/are rejected.
- 7) ☐ Claim(s) 5 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/16/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-53 have been examined.

Specification

2. The use of the trademark *Microsoft* has been noted in this application (page 2 line 26, page 3 lines 15 and 24, etc.). It should be capitalized wherever it appears and be accompanied by the generic terminology. The trademark is accompanied by the acronym *CLR*. However, this acronym is undefined so it is not known whether this acronym provides the aforementioned generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

3. Claim 5 is objected to because of the following informalities: A typo appears in line 27 on page 39 in claim 5. The word "is" in the phrase "destination operands of the second instruction is" should instead be "are" as follows: -- destination operands of the second instruction are--. Appropriate correction is required.
4. Claim 18 is objected to for the same reason as claim 5 above.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 46 recites the limitations "the continuation code block" and "another filter". There is insufficient antecedent basis for these limitations in the claim. This limitation will be interpreted as "a continuation code block is related to a filter."

7. Claim 47 recites the limitations "the continuation related code block". There is insufficient antecedent basis for this limitation in the claim. This limitation will be interpreted as "a continuation related code block comprises an unwind instruction."

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 1-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Although claim 1 recites "generating a computer-readable version", the specification does not clearly define "computer-readable", and such a version could be generated onto a computer readable carrier wave, which is non-tangible.

10. Claims 15-31 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed "system" does not appear to be a tangible

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embodiment of a system. The claims are directed to an arrangement of software since none of the limitations are *necessarily* implemented in hardware.

11. Claims 32-52 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to a computer readable storage medium. However, an explicit and deliberate definition of such a medium was not found in the specification. This allows non-tangible interpretations of the medium such as a carrier wave medium.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1, 15, 16, and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by “The Jalepeno dynamic optimizing compiler for Java” by Burke et al. (hereinafter “Burke”).

In regard to claim 1, Burke discloses:

A method of processing a uniform intermediate representation of software comprising exception handling constructs, the method comprising:

reading the uniform intermediate representation of software comprising exception handling constructs; wherein the uniform intermediate representation explicitly expresses exception handling control flow of the software; See page 131, paragraph 2 of section 4:

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A key difference between the Jalapeno HIR and Java bytecodes is the addition of separate operators to implement explicit checks for several common run-time exceptions, e.g., NULL-CHECK and BOUNDS-CHECK operators to test for null pointer dereferences and out-of-bounds array accesses respectively.

and generating a computer-readable version of the software implementing the exception handling control flow based on the uniform intermediate representation. See bottom of Figure 3: "Binary Code".

In regard to claim 15, Burke discloses a system. See the abstract. All further limitations have been addressed in the above rejection of claim 1.

In regard to claim 16, the above rejection of claim 15 is incorporated. All further limitations have been addressed in the above rejection of claim 1.

In regard to claim 53, all limitations have been addressed in the above rejection of claim 15.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 2, 5-7, 17, 18, 21, 22, 32, 33-36, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burke as applied to claims 1, 15, 16, and 53 above, and further in view

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of prior art of record “Compilers: Principles, Techniques, and Tools” by Aho et al. (hereinafter “Aho”), further in view of “Pure Java 2” by Litwak (hereinafter “Litwak”) further in view of prior art of record “Marmot: An Optimizing Compiler for Java” by Fitzgerald et al. (hereinafter “Fitzgerald”), further in view of US 6,421,667 B1 to Codd et al. (hereinafter “Codd”).

In regard to claim 2, Burke does not expressly disclose instructions related to finalization code blocks. However, in an analogous environment, Aho teaches that instructions are used to transfer control in intermediate representations. See page 491, Example 8.5: “goto”. Further, Litwak teaches that a finalization block is executed when it is present. See the top of page 3:

Additionally, you might have a finally clause, in which you perform code that you want done all the time, whether you get an exception or not.

Further, Fitzgerald discusses requirements for blocks of an intermediate representation.

See page 3, paragraphs 2 and 4 in section 3.1:

A method is represented as a control flow graph with a distinguished root (entry) block. Each graph node (basic block) consists of a sequence of effect statements and concludes with a control statement. An effect statement is either a side effect statement or an assignment statement. A side effect consists of an expression, and represents a statement that does not record the result of evaluating the expression. **Each basic block concludes with a control statement that specifies the succeeding basic block, if any, to execute under normal control flow.**

JIR models Java exception handling by labeling basic blocks with distinguished exception edges. These edges indicate the class of the exceptions handled, the bound variable in the handler, and **the basic block to transfer control to** if that exception occurs during execution of the guarded statements. The presence of an exception edge does not imply that the block will throw such an exception under some execution path.

Further still, Codd teaches that initialization code can be used at the beginning of a block to accept a transfer of control. See column 18 lines 39-41:

The queue monitor initialization code in logic block 875 is principally invoked whenever a new entry is placed into the DTQ table as represented by logic block 871.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Aho's instructions with Litwak's teaching of finalization blocks with Fitzgerald's flow control with Codd's teaching of control acceptance with Burke's intermediate representation. One of ordinary skill would have been motivated to provide flow control in order to correctly implement a finalization block.

In regard to claim 5, Burke does not expressly disclose: *wherein destination operands of the second instruction are the same as source operands of the third instruction*. However, Aho teaches that the outputs of an instruction can be used as the input for another instruction. See page 592, Fig. 10.6: $t_6 := 4 * i \dots x := a[t_6]$. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Aho's teaching of dependent instructions with Burke's intermediate representations. One of ordinary skill would have been motivated to provide data dependence between instructions in order to use the results of one computation as the basis for another.

In regard to claim 6, the above rejection of claim 2 is incorporated. Burke discloses the use of labels throughout, e.g. Figure 6. However, Burke does not expressly describe labels in the context of flow control. However, Aho teaches that labels are an elementary programming language construct. See page 506: *Labels and Gotos*. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Aho's teaching of labels to implement Burke's flow control. One of ordinary skill would have been motivated to change the flow of a program using an intuitive construct.

In regard to claim 7, the above rejection of claim 2 is incorporated. All further limitations have been addressed in the above rejection of claim 6.

In regard to claims 17, 18, 21, and 22, the above rejection of claim 15 is incorporated. All further limitations have been addressed in the above rejection of claims 2, and 5-7, respectively.

In regard to claim 32, Burke does not expressly disclose a storage medium. However, Cobb teaches a storage medium. See column 5 lines 39-46. All further limitations have been addressed in the above rejection of claim 2.

In regard to claims 33-36 and 39, the above rejection of claim 32 is incorporated. All further limitations have been addressed in the above rejection of claims 1 and 5-7.

In regard to claim 40, the above rejection of claim 32 is incorporated. Burke does not expressly disclose: *wherein control flow to the finalization block is expressed by a related set of FINAL, FINALLY and ENDFINALLY instructions*. However, Aho discloses that instructions can be used to describe flow control with intermediate representations. See page 468, paragraph 2. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Aho's teaching of language design with

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Burke's intermediate representation. One of ordinary skill would have been motivated to define instructions that guide the flow of control in order to inform a back end compiler.

16. Claims 3, 4, 19, 20, 41, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burke, Aho, Litwak, Fitzgerald, and Codd as applied to claims 2, 5-7, 17, 18, 21, 22, 32, 33-36, 39 and 40 above, and further in view of US 5,918,235 to Kirshenbaum et al. (hereinafter "Kirshenbaum").

In regard to claim 3, the above rejection of claim 2 is incorporated. Burke does not expressly disclose: *wherein the finalization code block comprises code related to destructor of an object*. However, in an analogous environment, Kirshenbaum teaches that a finalization routine acts as a destructor. See column 7 lines 50-64. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Kirshenbaum's teaching of destructors with Litwak's teaching of finalization routines. One of ordinary skill would have been motivated to guarantee that an object is destroyed by placing it in the finalization block.

In regard to claim 4, all further limitations have been addressed in the above rejection of claim 3.

In regard to claims 19 and 20, the above rejection of claim 17 is incorporated. All further limitations have been addressed in the above rejection of claims 3 and 4, respectively.

In regard to claims 41 and 42, the above rejection of claim 32 is incorporated. All further limitations have been addressed in the above rejection of claims 3 and 4.

17. Claims 8, 23, 24, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burke, Aho, Litwak, Fitzgerald, and Codd as applied to claims 2, 5-7, 17, 18, 21, 22, 32, 33-36, 39 and 40 above, and further in view of US 5,966,702 to Fresko et al. (hereinafter "Fresko").

In regard to claim 8, the above rejection of claim 2 is incorporated. Burke does not expressly disclose *wherein the third instruction for expressing transfer of control out of the finalization code block comprises fields for indicating different continuations for control transfer out of the finalization code block based on whether entry into the finalization code block was explicit or due to an exception*. However, in an analogous environment, Fresko teaches that a continuation out of a finalization code block requires an indication of a return based upon how the finalization block was reached. See column 42 lines 10-39. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Fresko's teaching of continuation with Burke's

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intermediate representation. One of ordinary skill would have been motivated to return to the proper block of code upon execution of a *finally* subroutine.

In regard to claim 23, the above rejection of claim 17 is incorporated. All further limitations have been addressed in the above rejection of claim 8.

In regard to claim 24, the above rejection of claim 23 is incorporated. All further limitations have been addressed in the rejection of claim 12.

In regard to claim 37, the above rejection of claim 32 is incorporated. All further limitations have been addressed in the above rejection of claim 8.

In regard to claim 38, the above rejection of claim 37 is incorporated. All further limitations have been addressed in the above rejection of claim 24.

18. Claims 9, 10, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burke as applied to claims 1, 15, 16, and 53 above, and further in view of Aho and Litwak.

In regard to claim 9, the above rejection of claim 1 is incorporated. Burke does not expressly disclose *catching an exception, returning an exception object related to the exception or specifying a handler for the exception based on a type value of the exception*

object. However, in an analogous environment, Litwak teaches catching exceptions, returning exception objects, and specifying handlers based on type. See page 3:

Java processes catch blocks by examining the type of the exception class listed in the catch block parameter list. The catch block whose Exception type matches the type of Exception thrown from the try block is executed.

All further limitations have been addressed in the above rejection of claim 2. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Litwak's teaching of catching exceptions with Aho's teaching of intermediate representation instructions with Burke's intermediate representation. One of ordinary skill would have been motivated to correctly implement exception handling using a try-catch mechanism.

In regard to claim 10, the above rejection of claim 9 is incorporated. Burke does not expressly disclose: *wherein the second instruction for specifying the handler comprises: at least one Boolean source operand for indicating the type value of the exception object; at least one source operand indicating a label preceding a code block related to the handler to which control flow will pass if the Boolean source operand is true; and at least one source operand indicating a label preceding a code block related to a continuation to which control flow will pass if the Boolean source operand is false.* However, Aho teaches that a conditional jump can be used to redirect program flow in the presence of a binary relation. See page 467, item 5. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Aho's teaching of conditional jumps with Burke's intermediate representation. One of ordinary skill

would have been motivated to represent control flow in a single operation in order to save space and enhance program understanding.

In regard to claims 25 and 26, the above rejection of claim 15 is incorporated. All further limitations have been addressed in the above rejection of claims 9 and 10, respectively.

19. Claims 11, 12, 27, 28, 48, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burk as applied to claims 1, 15, 16, and 53 above, and further in view of Aho, Litwak and Fresko.

In regard to claim 11, the above rejection of claim 1 is incorporated. Burke does not expressly disclose: *wherein the uniform intermediate representation comprises: an instruction for specifying a handler for an exception based on a type value of an exception object related to the exception, wherein a destination operand of the instruction comprises a predetermined exception object, a first source operand of the instruction comprises a label indicative of a code block related to the handler and second source operand comprises a label indicative of a code block related to a continuation.* However, Aho teaches that instructions are used to transfer control in intermediate representations. See page 491, Example 8.5: “goto”. Litwak teaches that handler destinations are chosen based on the type of an exception object. See page 4 paragraph 2. Further, Fresko teaches that continuations are required to provide a return to code

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execution. See column 42 lines 10-39. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Litwak's teaching of handlers with Fresko's teaching of continuations with Aho's teaching of instructions with Burke's intermediate representation. One of ordinary skill would have been motivated to provide instructions for representation of control flow.

In regard to claim 12, the above rejection of claim 11 is incorporated. Fresko teaches that a determination of exception type results in the execution of a handler, or in a continuation. See column 42 lines 5-39. All further limitations have been addressed in the above rejection of claim 10.

In regard to claims 27 and 28, the above rejection of claim 15 is incorporated. All further limitations have been addressed in the above rejection of claims 11 and 12.

In regard to claims 48 and 49, all limitations have been addressed in the above rejection of claims 11 and 12.

20. Claim 13, 14, 29-31, and 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burke as applied to claims 1, 15, 16, and 53 above, and further in view of "C/C++ Language Reference: try-except Statement", by Microsoft (hereinafter "Microsoft Language Reference").

In regard to claim 13, the above rejection of claim 1 is incorporated. Burke does not expressly disclose: *wherein the uniform intermediate representation comprises: a first instruction for indicating entry into a try-except region; and a second instruction for selecting one of a plurality of control flow paths for exception handling based on a type value related to the exception, wherein the plurality of control flow paths available for selection includes a path related to resumption of execution of an instruction causing the exception.* However, in an analogous environment, the Microsoft Language Reference teaches that try-except statements are a custom extension to a standardized language. See page 1 paragraph 1. Further, Aho teaches that instructions are used to transfer control in intermediate representations. See page 491, Example 8.5: “goto”. Further, Litwak teaches that if an exception is raised, then a program should continue execution after processing the exception. See middle of page 5. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of Microsoft Language Reference with Aho’s teaching of instructions with Litwak’s teaching of exception flow with Burke’s intermediate representation. One of ordinary skill would have been motivated to implement a programming language feature efficiently in an intermediate representation to assist in compilation. Further, one would be motivated to provide continued execution after an exception is raised.

In regard to claim 14, the above rejection of claim 13 is incorporated. All further limitations have been addressed in the above rejection of claim 11.

In regard to claims 29 and 30, the above rejection of claim 15 is incorporated. All further limitations have been addressed in the above rejections of claims 13 and 14.

In regard to claim 31, the above rejection of claim 30 is incorporated. Burke does not expressly disclose: *wherein a handler for the first instruction for indicating entry into the try-except region is the same as a handler for the exception causing instruction.*

However, Litwak teaches that the same handler can handle different exceptions. See bottom of page 4. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Litwak's teaching of exception handlers with Burke's teaching of intermediate representations. One of ordinary skill would have been motivated to use previously implemented code to handle multiple exceptions in order to reduce coding time.

In regard to claims 50-52, all limitations have been addressed in the above rejections of claims 13, 14, and 31.

21. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burke, Aho, Litwak, Fitzgerald, and Codd as applied to claims 3, 4, 19, 20, 41, and 42 above, and further in view of US 6289446 B1 to Nilsson (hereinafter "Nilsson").

In regard to claim 43, the above rejection of claim 42 is incorporated. Burke does not expressly disclose: *wherein the expression temporary object is created upon a*

condition being true and the control is transferred to the finalization code block upon the same condition being true. However, in an analogous environment, Nilsson teaches that temporary objects are created during creation of an exception. See column 17 line 63 – column 18 line 13. Litwak teaches that a finalization block is entered for *try-finally* styled exception processing. See top of page 3. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Nilsson's teaching of temporary object creation with Litwak's teaching of finalization. One of ordinary skill would have been motivated to create temporary objects for programming languages that promote their use.

22. Claims 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burke and further in view of Aho, Litwak, and Codd.

In regard to claim 44, all limitations have been addressed in the above rejections of claims 9 and 32.

In regard to claim 45, the above rejection of claim 44 is incorporated. All further limitations have been addressed in the above rejection of claim 10.

In regard to claim 46, the above rejection of claim 45 is incorporated. Burke does not expressly disclose: *wherein a continuation code block is related to a filter.* However, Litwak teaches that after a filter determines what handler to use, it forwards execution.

See top of page 3. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Litwak's continuation with Burke's intermediate representation. One of ordinary skill would have been motivated to process an exception through a filter to determine where processing should continue.

23. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burke, Aho, Litwak, and Codd as applied to claim 45 above, and further in view of "A single intermediate language that supports multiple implementations of exceptions" by Ramsey et al. (hereinafter "Ramsey").

In regard to claim 47, the above rejection of claim 45 is incorporated. Burke does not expressly disclose: *wherein a continuation related code block comprises an unwind instruction*. However, in an analogous environment, Ramsey teaches that unwind instructions are called to find a handler that inherently provides continuations. See page 286, column 1. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Ramsey's teaching of unwind instructions with Burke's intermediate representations. One of ordinary skill would have been motivated to unwind a stack in order to find an exception handler.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (571) 272-3703. The examiner can normally be reached on T-F 6:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jdr


WEI Y. ZHEN
PRIMARY EXAMINER